

## ABSTRACT OF THE INVENTION

Processes using heterogeneous adsorbents are disclosed for purification of aromatic monomers such as are typically produced by dehydrogenation of suitable benzenoid hydrocarbons, by passing a stream of ethylenically unsaturated aromatic monomer and impurities comprising at least one substituted aromatic compound having the same or similar carbon content in which a substituent moiety is acetylenically unsaturated, through a particulate bed of predominantly a support material having high surface area on which is dispersed at least one metallic element. Selective adsorption and/or complexing of the contained impurities with the adsorbent is continued until levels of a selected impurity in the effluent stream increase to a predetermined level. Thereafter the resulting bed of adsorbent is regenerated in the presence of a reducing gas containing dihydrogen to effect release of the contained impurities from the adsorbent.